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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,399	07/16/2003	Dong-Hwan Kim	1650-6	9541

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EXAMINER

SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,399

Applicant(s)

KIM, DONG-HWAN

Examiner

John P. Sheehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I claims 1 to 5 in the reply filed on December 12, 2005 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

3. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

I. Claim 4 recites that "the magnetic field is alternately applied 1-10 times". This language encompasses a single application of the magnetic field. A single application of the magnetic field amounts to a static magnetic field. However, claim 1, from which claim 4 depends is limited to a pulsed magnetic field that the Examiner interprets to mean multiple applications of the magnetic

field. In view of this, claim 4 is not considered to further limit claim 1 from which it depends.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. In claim 5, lines 3 and 4, the meaning of the phrase, "device is controlled 0-10 times" is not clear. It is not clear what aspect or operating parameter of the device is controlled. For example, is it the pressure, the number of times the device compacts the powder, etc? Those skilled in the art would not understand what is claimed even when the claims are read in light of the specification.

Allowable Subject Matter

6. Claims 1 to 3 are allowed.
7. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims claim 1 to 3 and 5, none of the prior art alone or in combination teach or suggests:

A longitudinal magnetic field compacting method for manufacturing a rare earth magnet, comprising the combination of the following steps of:

melting an alloy including 27-36 wt% rare earth, 59-73 wt% Fe, 0 to 5 wt% of a transition metal and 0 to 2 wt% B by vacuum induction heating to obtain a molten alloy, which is then subjected to strip casting or chill mold casting, to prepare an alloy ingot;

hydrogenating the alloy ingot in a range of from room temperature to 200°C to increase pulverizability of the alloy ingot;

pulverizing the alloy ingot by means of a jet mill, an attritor mill, a ball mill or a vibration mill, to a particle size of 2-6 microns;

applying a pulse magnetic field to the rare earth powders so that the rare earth powders are oriented in a direction of the applied magnetic field and subjected longitudinal magnetic field compacting, based on the principle that a magnetic material attracted the center of the magnetic field coil by the pulse magnetic field, to form a compacted body;

sintering the compacted body at 1000-1100°C in a vacuum or argon atmosphere, to prepare a sintered body; and

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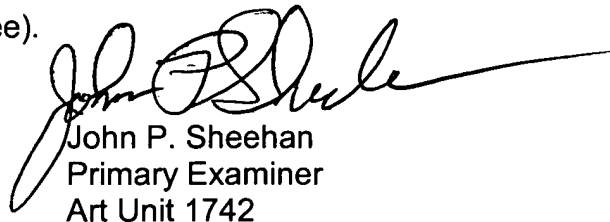
heat-treating the sintered body at 400-900°C., thereby obtaining a rare earth magnet.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps